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ABSTRACT

This paper provides descriptive information about the implementation of prescriptive criterion referenced testing and its impact on a compensatory reading laboratory program in the Houston public schools. After describing the program and the rationale for the selection of a criterion referenced test, a study of the teachers' utilization of the test and of pretesting and posttesting of program participants is outlined. Results indicated that the reading specialists had generally positive opinions about the criterion referenced test and the testing program as implemented. A positive relationship between degree of test utilization and individualization of instruction was suggested. High implementation of test results produced higher gains in pre/post comparisons. (AA)

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USE OF CRITERION REFERENCED TESTING IN A COMPENSATORY READING PROGRAM

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The purpose of this presentation is to provide descriptive information about the implementation and impact of the use of prescriptive Criterion Referenced Testing on a compensatory reading laboratory program in the Houston Public Schools.

DESCRIPTION OF THE PROGRAM

The Houston Independent School District Title I compensatory reading program uses a reading resource room approach. The rooms are divided into instructional centers, with selected materials and equipment focusing on the identified remedial needs of students participating. These materials and equipment are not available to the regular classroom teacher.

Students are identified as eligible to participate on the basis of test data using the criteria of approximately 1 standard deviation below the mean grade equivalent for students at each grade level.

These students are scheduled periodically throughout the day to receive intensive reading instruction in small groups or independently at centers located within the resource rooms. Each resource room is staffed with one reading specialist and one teachers aide who work with no more than 15 children per period. Children are grouped and instructed according to specified needs as assessed by the tests.

RATIONALE FOR SELECTION OF A CRITERION REFERENCED TEST

Evaluations of the 1974-1975 Title I elementary reading program indicated a need for adding structure to the program. No real definition of the services included in the program was available. One recommendation of the 1974-1975 Final Evaluation of the program was that the use of a prescriptive and diagnostic objective-based instrument might provide the needed structure.

In the summer of 1975 research personnel reviewed several Criterion Referenced Tests using the following criteria:

1. Value to the teacher in planning for instruction.

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2. Correspondence of test objectives with the Houston Independent School District reading objectives.

3. Usability of the test for research purposes.

The test selected was presented to the Title I Supervisors by Research personnel and a company representative. Unanimous approval was obtained.

DESCRIPTION OF THE TEST

The Individualized Criterion Referenced Test for Reading (ICRT), published by Educational Progress Corporation, was selected.

The ICRT is based on sets of instructional objectives for reading. The continuum for reading contains 329 objectives. Administration of the ICRT requires the selection of 40 sequential objectives from the continuum which are most appropriate to the functional reading level of the child. Decisions about which 40 objectives are appropriate for a given child are based on teacher judgement and test data.

For the 40 objectives tested, the scored tests indicate those objectives mastered, needing review, or not mastered. Administration of the ICRT as a pretest provides diagnostic information about skills needing instruction as well as indicating the reading skills acquired prior to entry in the program. Used as a posttest, the ICRT assesses the effectiveness of instruction by indicating mastery of those objectives needing instruction which were identified on the pretest.

DESCRIPTION OF INSERVICE TRAINING

The local representative of Educational Development Corporation planned, with Houston Independent School District personnel, and presented three inservice programs for all Reading Specialists in the program. The topics included: 1) Test administration procedures, 2) Interpretation of test results, and 3) Instructional techniques for use of the ICRT results.

OPINIONS ABOUT ICRT AND THE TESTING PROGRAM

Evaluations of inservice training were conducted following each inservice session. Specialists were administered inservice evaluation questionnaires designed to assess opinions about the quality of the inservice and the ICRT testing program as implemented within Houston Independent School District.

Generally, questions aimed at assessing inservice quality received high-mean ratings. A majority of the mean ratings to questions

assessing opinions about the ICRT testing program were also high, however, more variable than those assessing the quality of the inservice. Higher mean ratings occurred to questions assessing opinions about clarity of instructions for test administration and use, the usefulness of test results for instruction and, test appropriateness for grades 3-6. Highest ratings were received by questions assessing the perceived usefulness of the material correlations and of the student printouts for planning. Approximately 80% of the specialists rated the usefulness of students summaries for instruction as "much" or "very much".

Lowest mean ratings occurred to questions assessing opinions about the time allotted for test administration and the appropriateness of the test for grades 1 & 2. Specialists felt the 8 day test administration period was unrealistic. Specialists also felt the test procedures for 1st & 2nd grade pupils was inappropriate, since ICRT readiness materials were not used by the district for these grade levels.

In addition to assessing opinions through the inservice evaluation questionnaire, field interviews were also conducted with a sample of 12 reading specialists. Responses to the interviews suggested a high degree of satisfaction with the test as well as high ratings of test accuracy. The specialists reported a high degree of satisfaction with the test as indicated by a mean rating of 5.6 on a 7 point rating scale. All specialists agreed that Houston Independent School District should continue the use of the ICRT for the reading program, with several specialists indicating that the test was superior to those previously provided in the program. Specialists were also asked to rate on a 7 point scale the overall accuracy of the test. The responses ranged from 4 to 7 with a mean rating of 5.6. While most specialists felt the test was accurate, 10 of the 12 also indicated that students had skills needs in addition to those diagnosed on the test.

TEST UTILIZATION

An examination of test utilization was initiated through the use of field interviews and observations. All specialists interviewed reported: 1) using the test results for either grouping, diagnosis, prescription, or individualization, 2) using the correlated materials from the printouts and 3) sharing the test information with either the regular classroom teachers, the students, or the principal. Utilization of the correlated materials was reported by all specialists, however, all indicated that materials other than those correlated were also necessary. Estimates of the percentage of materials used in instruction which were not correlated on the printout ranged between 10% and 90%.

Regarding the adequacy of the materials correlated, 9 of the 12 specialists indicated the correlated material to be adequate in reinforcing the skills needs assessed on the test. Specialists listed inappropriate levels of skill reinforcement and the introduction of several skills in addition to those correlated, as inadequacies in the material correlations.

Responses to questions in the interview indicated a high degree of reported test utilization. Field observation did not substantiate the high degree of test utilization reported by teachers. Three types of observations were employed in assessing tests utilization. Accessibility and availability of the printouts to the teacher was noted. Printouts were examined to determine any evidence of use such as writing on the printouts or excessive wear on the pages. The instructional activities offered by each specialist to a sample of 3 students were observed and recorded. The specific reading skills addressed by these activities were compared to the skills indicated on the printouts. The results of the observations revealed that the printouts were easily accessible to 11 of 12 specialists. The printouts of 9 of 12 specialists had some evidence of use. In addition, there was correspondence between the skills addressed in instructional activity and the skills needs identified on the ICRT for only 7 of the 12 specialists. These observations suggest that the actual incidence of test utilization is lower than that reported by the specialists.

INDIVIDUALIZATION OF INSTRUCTION

In addition to observations relating to test utilization, a modified version of an observation and analysis instrument developed by Ben M. Harris and Kenneth E. McIntyre from U.T. was utilized in obtaining ratings of individualization of instruction for the 12 sample teachers. One instructional period was observed for each teacher and ratings made on the 19 item instrument. The items selected for use represented four dimensions important to individualized instruction. These include: intra-class grouping, variety of materials, pupil autonomy, and differentiated assignments. Ratings on each item were converted to numerical values and summed to derive a total score for individualization. A score of 97, representing high individualization, was the highest possible score and 19 the lowest possible score. The total scores for individualization of instruction ranged from 23 to 74 with a mean of 43.4. While the size of the sample did not permit statistical analysis of the relationship between test utilization and individualization, it is interesting to note that the mean total score for individualization for those teachers with clear evidence of test utilization was 54 while the mean total score for those specialists with little evidence of use was 28.

RESULTS OF PRE-POSTTESTING

A sample of 72 second grade and 87 fifth grade program participants receiving remedial instruction from the 12 teachers observed were pre and posttested on the ICRT. Each child was pretested over a different set of 40 objectives appropriate to his functional reading level, and posttested over those same objectives. Three scores were obtained: 1) the number of objectives needing instruction on the pretest which were mastered on the posttest, 2) the number of objectives needing review on the pretest which were mastered on the posttest and 3) a total score. The test provides three types of information on objective mastery, including complete mastery, needing review, and needing instruction. For research purposes we have derived a total score which increases as the child moves toward mastery of objectives and decreases as he moves away from mastery toward needing instruction. The results of sample pre and posttesting for each of the scores by grade are presented in Table I below.

TABLE I

MEAN GAINS SCORES ON THE ICRT BY GRADE

Grade	Needing Instruction 1) Pre-Mastery Post	Needing Review 2) Pre-Mastery Post	Total 3)
2	4.60	6.89	12.82
5	3.16	5.65	8.79

As can be seen in Table I, the mean gains of second graders were greater than those of fifth graders. Based on the results of an analysis of variance with grade as a factor, the mean differences apparent in the Table were found to be statistically significant.

Observations of test utilization were combined with ratings of individualization of instruction in subdividing the 12 teachers into two groups of six. Teachers with obvious evidence of use and high scores on individualization were collapsed into a group and labeled "high implementers". Specialists with less evidence of test use and relatively lower scores on individualization of instruction were labeled "low implementers". Test scores of students receiving instruction from teachers in each of these categories were compared in an analysis of variance. The mean gain scores for the

"high" and "low implementers" are presented in Table II. All mean differences were found to be statistically significant.

TABLE II

MEAN GAINS FOR "HIGH" AND "LOW IMPLEMENTERS"

Implementation	Needs Instruction on Pre-Mastery on Post	Needs Review on Pre-Mastery on Post	Total
High	4.90	7.36	15.37
Low	2.80	5.12	6.14

As can be seen in Table II, "high implementers" had higher mean gain scores than "low implementers". It appears from these data, that significantly greater gains are achieved from specialists who utilize the ICRT results and individualize instruction.

CONCLUSIONS

1. Houston Independent School District specialists have generally positive opinions about the ICRT for reading and the testing program as implemented.

2. A positive relationship between test utilization and individualization of instruction was suggested. Additional data on a larger sample is necessary before a determination can be made.

3. High implementation of test results produced higher gains in objective mastery.